

NORWALK HARBOR NORWALK, CONNECTICUT

SURVEY (REVIEW OF REPORTS)



**DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.**

AUGUST 1970

SYLLABUS

The Division Engineer has studied the request of local interests for additional mooring area, 6 to 8 feet deep within the harbor. They have stated that the existing anchorage areas within the harbor are insufficient to accommodate the large recreational fleet using the harbor. However, the Division Engineer finds that modification of the existing Federal navigation project for Norwalk Harbor, Connecticut is not warranted at this time.

All possible areas for providing anchorage were investigated. The one area suitable for such development was the marsh area located at the south side of Veterans Memorial Park. A 30-acre anchorage was considered and found not to be economically justified. Therefore, a plan of improvement was selected for further study which would provide a 14-acre anchorage, 6 feet deep, located off the southeast corner of Veterans Memorial Park. The estimated first cost of the plan is \$540,000 and the benefit-cost ratio 1.9 to 1.0. Since the benefits to be derived are entirely recreational in nature, local interests would be required to make a cash contribution equal to 50 percent of the construction cost estimated to be \$270,000. In addition, local interests would be required to provide and maintain fore-and-aft mooring facilities within the anchorage, open to all on equal terms.

From the standpoint of navigation needs, the considered improvement project is feasible. The Common Council of the City of Norwalk voted favorably on the proposed improvement. However, this was pending the outcome of studies by a consultant in the field of ecology, which the City engaged. The consultant's study showed that the area is teeming with marine life which would be adversely affected by dredging the mud flats. The City of Norwalk states that this and the fact that the city is unable to commit the necessary funds at this time, precludes its participation in the proposed improvement.

Therefore, the Division Engineer recommends no modification of the authorized Federal navigation project for Norwalk Harbor, Connecticut at this time.

NORWALK HARBOR, CONNECTICUT

TABLE OF CONTENTS

<u>Paragraph No.</u>	<u>Subject</u>	<u>Page No.</u>
1	Authority	1
2	Purpose and Extent of Study	1
3	Description	1
7	Tributary Area	2
9	Bridges	3
10	Prior Reports	4
11	Existing Corps of Engineers' Project	4
13	Local Cooperation on Existing and Prior Reports	5
14	Other Improvements	6
15	Terminal and Transfer Facilities	6
17	Improvements Desired	6
23	Existing and Prospective Commerce	8
25	Vessel Traffic	9
27	Difficulties Attending Navigation	9
28	Water Power and Other Special Subjects	9
30	Plan Formulation	10
39	Plan of Improvement	12
40	Shoreline Changes	13
41	Aids to Navigation	13
42	Estimates of First Costs	13
44	Estimates of Annual Charges	14
46	Estimates of Benefits	15
54	Comparison of Benefits to Costs	17
55	Proposed Local Cooperation	17
56	Apportionment of Costs Among Interests	18
57	Coordination with Other Agencies	18
59	Discussion	18
62	Conclusions	20
63	Recommendations	20
Map Accompanying Report		1 Plate
APPENDIX A	U. S. Fish and Wildlife Service Report	A-1
APPENDIX B	Comments of Local Interests	B-1
ATTACHMENT #1 Info. Senate Resolution 148		



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02154

IN REPLY REFER TO

NEDED-R

5 August 1970

SUBJECT: Survey (Review of Reports) Norwalk Harbor, Connecticut

Chief of Engineers
ATTN: ENGCW-PD

AUTHORITY

1. This report is submitted in compliance with Resolutions of the Committee on Public Works of the United States Senate, adopted 10 April 1953 and 6 August 1956.

"RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE, That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby requested to review the reports of the Chief of Engineers on Norwalk Harbor, Connecticut, published as House Document Numbered 220, Seventy-sixth Congress, First Session, and other reports, with a view to determining whether the existing project should be modified in any way at the present time. "

PURPOSE AND EXTENT OF STUDY

2. This study was made to determine the economic justification for modifying the existing Federal navigation project at Norwalk Harbor by providing additional anchorage for recreational boating in accordance with the needs and desires of local interests. A detailed hydrographic survey was made to determine the depths and conditions existing in the study area. In addition, available maps, charts, aerial photographs, commercial statistics and other data pertaining to the waterway were reviewed throughout the study.

DESCRIPTION

3. Norwalk Harbor is located on the north shore of Long Island Sound in Connecticut, about 13 miles southwest of Bridgeport and 8 miles northeast of Stamford. It is comprised of the outer harbor, also known

as Sheffield Island Harbor, lying between the Norwalk Islands and the mainland, and the tidal portion of the Norwalk River, a reach of about 3 miles extending upstream to Norwalk, a combined distance of about 4.8 miles. Norwalk River rises in ponds and marshes about 25 miles north of Norwalk above which the river is not navigable. South Norwalk is situated on the west bank about 1.5 miles below Norwalk where the river broadens into a shallow bay, and about opposite East Norwalk located on the east side of the river.

4. From the mouth of the river to the wharves at South Norwalk, the river is generally 0.5 mile wide, decreasing in width to about 150 yards at South Norwalk, above which it narrows to 50 yards at Norwalk, where it winds through flats and marshes to a small basin at the wharves in Norwalk. Natural depths in the greater part of the harbor are from one to two feet, although near the mouth at Gregory Point the depths range from 13 to 25 feet. Improved channels extend north and south of this area of deep water, and along the waterfront to East Norwalk, and two improved anchorages have been provided.

5. Norwalk Harbor is well protected from storm winds and waves. The outer harbor, is protected from the north and west by the mainland, and from the south and east by the Norwalk Islands, a chain of many islands one to two miles offshore extending for a distance of about six miles. Prevailing winds are from the northwest through the southwest averaging approximately 20 miles per hour. The mean tidal range at South Norwalk is 7.1 feet.

6. The study area is shown on U. S. Coast and Geodetic Survey Charts Nos. 221, 1213 and on the map accompanying this report.

TRIBUTARY AREA

7. The City of Norwalk, located in Fairfield County, covers an area of 30.4 square miles and practically surrounds the harbor. In addition to the City proper, it includes the communities of East Norwalk, South Norwalk and the outlying Norwalk Islands. In 1960, the population was 67,775, a 37 percent increase over the 1950 population of 49,460. The population estimate in 1966 was reported to be 75,100. The city is an important industrial center as well as the trading center for nearby towns. The principal industries reported in 1966 include the manufacture of heating and air-conditioning equipment, air

compressors, pumps, electrical equipment, machine tools, optical equipment, plastics, and clothing. Shellfishing also is an important factor in the economy of Norwalk. The city shellfish grounds and the state shellfish grounds lie offshore about 1.5 and 2.0 miles, respectively. This area has been one of the few continuously productive shellfish grounds in Connecticut, and because of high water quality is one of two areas presently suitable for maturing market oysters.

8. Beyond the commercial core of the city, most of the shore area is residential. During the summer season, the population in these sections is increased substantially by the influx of summer residents. The city is serviced by the passenger and freight lines of the Pennsylvania-Central Railroad (New York, New Haven and Hartford Railroad) which passes through both South Norwalk and East Norwalk, by major passenger bus lines, and by numerous motor common carriers. The area is served by improved highways, expressways, and a network of local roads. Both Interstate Route 95 and U. S. Route 1 pass through the city while the Merritt Parkway is about 2.5 miles north of the city. The need for improvement is that associated with the lack of sufficient facilities for the rapidly expanding recreational fleet.

BRIDGES

9. Three bridges cross the Norwalk River within the existing project area. Pertinent data on these bridges are contained in the following table:

TABLE 1

<u>Bridge Name and Use</u>	<u>Owner</u>	<u>Vertical Clearance</u>		<u>Horizontal Clearance</u>	<u>Type</u>
		<u>Above MHW</u>	<u>Above MW L</u>		
Washington St.	Conn. State Hwy. Dept.	8.3'	15.4'	70'	Bascule
Highway (1)	(Same)	(9.0')	(16.1')	(100')	(Same)
Norwalk Railroad	Penn-Central Railroad	16.2'	23.3'	55.0 left draw 58.4' right draw	Swing
Conn. Turn- pike Highway	Conn. State Hwy. Dept.	60.0'	67.1'	100'	Fixed

- (1) Existing bridge to be demolished by State of Connecticut upon relocation of Connecticut Route 136 and construction of new bridge about 115 feet downstream of present bridge. Dimensions shown in parentheses are for proposed bridge scheduled for future construction.

PRIOR REPORTS

10. Interest in improving Norwalk Harbor for navigation purposes dates back to 1830. Since that time, the harbor has been the subject of 11 reports. Those forming the basis for the existing project are tabulated below:

<u>Document</u>	<u>Recommendations</u>	<u>Action by Congress</u>
H. Doc. 1143, 63d Congress, 2d Session	12-foot channel to South Norwalk, then 10 feet deep to Norwalk, with basin at Norwalk, and 10-foot anchorage opposite Fitch Pt.	Authorized by the River and Harbor Act of 2 March 1919
H. Doc. 220, 76th Congress, 1st Session	6-foot channel to East Norwalk and 6-foot anchorage adjacent to upper portion of channel	Authorized by the River and Harbor Act of 2 March 1945

EXISTING CORPS OF ENGINEERS' PROJECT

11. The original project, adopted by the River and Harbor Act of 10 June 1872, provided for a channel 100 feet wide and 6 feet deep at mean low water to Norwalk. The River and Harbor Act of 18 August 1894 extended the project to include the removal of shoal and the widening of a bend. A second project, adopted by the River and Harbor Act of 3 June 1896, provided for a channel 150 feet wide and 10 feet deep at mean low water up to the railroad bridge at South Norwalk, and for the widening of two bends at the harbor entrance. An 8-foot channel, 100 feet wide, from South Norwalk to Norwalk, and a 6-foot channel, 75 feet wide, to the East Norwalk wharves were authorized by the River and Harbor Act of 2 March 1907. The cost of these early improvements amounted to \$228,637.25, of which \$162,516.81 was for new work and \$66,120.44 for maintenance.

12. The existing project, adopted by the River and Harbor Act of 2 March 1919 and modified by the River and Harbor Act of 2 March 1945, provides for an entrance channel 12 feet deep, 200 feet wide, from the Outer Harbor to Gregory Point (Dorlons), then 150 feet wide to South Norwalk and 250 feet wide along the wharves to the Washington Street Highway bridge, then 10 feet deep, generally 100 feet wide to a basin of the same depth at the head of navigation at Norwalk; an anchorage 10 feet deep about 17 acres in area adjacent to the east limit of the 12-foot channel opposite Fitch Point; and a channel 6 feet deep, 125 to 150 feet wide, from the 10-foot anchorage of the same depth adjacent to the upper portion of the channel at East Norwalk. The existing project was completed in 1950. The total Federal costs of the existing project have been \$1,214,418, of which \$368,612 was for new work and \$845,806 was for maintenance work. In addition, the sum of \$34,500 from contributed funds was expended for new work.

LOCAL COOPERATION ON EXISTING AND PRIOR REPORTS

13. The existing project was authorized with the provision that no part of the funds appropriated "shall be expended until the Secretary of War shall have received satisfactory assurances that local interests will construct such public wharfage facilities, as, in his opinion, are required in the interest of commerce". In compliance with this, local interests constructed a public wharf at a cost of about \$60,000 on city property just south of the Washington Street bridge. The project modification, adopted in 1945, was authorized subject to the provisions that local interests furnish, free of cost to the United States, all lands, easements, and rights-of-way and spoil-disposal areas for the initial work and for subsequent maintenance as required; hold and save the United States free from claims for damages resulting from the improvement, and contribute one-half of the first cost of the anchorage basin, but not to exceed \$16,500. These requirements were met and construction of the 6-foot channel and anchorage was completed in 1950. The total costs incurred by local interests in meeting the requirements of local cooperation for the existing project amounted to \$94,500 including a \$16,500 cash contribution, \$18,000 in lieu of furnishing spoil-disposal areas, and \$60,000 for wharfage facilities. An anchorage basin was provided west of Calf Pasture point incidental to dredging material for land reclamation. The above-mentioned requirements were the only conditions of local cooperation required for the existing navigation project. No conditions were imposed relative to the previous projects.

OTHER IMPROVEMENTS

14. The City of Norwalk has constructed a boat launching ramp on the east bank of the river at Norwalk at a cost of about \$2,000. An anchorage basin for pleasure craft was dredged by the city west of Calf Pasture Point. The cost of this work is not known. In addition, a municipal fishing pier 800 feet long has been constructed at Calf Pasture Point adjacent to Calf Pasture Beach.

TERMINAL AND TRANSFER FACILITIES

15. The City wharf and the public launching ramp are in good condition. In addition to these public facilities, there are 17 privately-owned wharves of which one in poor condition is no longer used. The 16 active wharves are used principally for the receipt and shipment of petroleum and petroleum products, coal and lignite, stone, sand and gravel, fresh fish, shellfish and shellfish products.

16. There are 29 facilities in the harbor directly connected with recreational boating. Of the 28 privately-owned facilities, 6 are yacht clubs of which one is at Norwalk, two at East Norwalk, and three at South Norwalk; and four are individually owned, one at East Norwalk and three at South Norwalk. There are 18 boatyards and marinas of which 11 are located in East Norwalk and seven at South Norwalk. Three boatyards are equipped with marine railways capable of hauling out boats up to 80 feet in length and nine feet in draft. In addition, travel-lifts or hoists are available at most of the marina facilities. Hull and machinery repairs, gasoline, diesel oil, water and other provisions may be obtained at each of the larger establishments.

IMPROVEMENT DESIRED

17. A public hearing was held in the City of Norwalk on 20 September 1955 to determine the nature and extent of navigation improvements desired by local interests. The hearing was attended by representatives of the Federal, State and municipal governments, boatyard and marina interests, boat owners, local businessmen and residents of Norwalk and nearby towns.

18. Testimony presented at the hearing indicated that four improvements were desired by various interests. Of these, the provision of a mooring basin, 6 to 8 feet deep, of approximately 30 acres south to southeast of Veterans Memorial Park, appeared to be the principal improvement desired. It was claimed that the area would provide additional moorings for 300 to 400 boats averaging 30 feet in length. The desired basin would be located between the main Norwalk Harbor Channel and the East Norwalk Channel, just north of the existing 10-foot anchorage opposite Fitch Point. Local interests further stated that requests for mooring spaces were constantly being denied as the requests exceeded the capacity of available areas. It was also stated that 1,060 craft over 20 feet in length and 1,611 craft under 20 feet were moored in the Norwalk area at that time. Local interests also indicated that many locally owned boats were obliged to moor in other harbors at great disadvantage and at added expense because of limited availability of moorings at Norwalk Harbor. Lack of protected mooring space was regarded to have hampered the growth of recreational boating in the area. Further, local interests felt that an additional mooring area would encourage the purchase of boats and greatly increase the use of Norwalk Harbor by visiting craft. Plans depicting the anticipated development of Veterans Memorial Park as a recreational area were submitted by city officials.

19. The harbor master requested that the main harbor channel be straightened in the vicinity of Oystershell Point just south of the Connecticut Turnpike. It was stated that some tankers heading upstream have difficulty navigating the bend and that often these tankers have gone aground on the mudflats. The hearing officer explained that such a request might be justified under the maintenance program for existing projects and therefore, was not a part of the matter under consideration.

20. A further proposal was presented suggesting that dredging of a 2,000 foot channel, north of Cockenoe Island and about 2 miles east of Norwalk Harbor, would provide a shorter and more protected inside passageway for boats heading westward along the coast. It was stated that boats other than those having outboard motors or centerboards were required to detour through open water around the south side of Cockenoe Island.

21. A fourth proposal was for the construction of a 30-foot stone jetty, 15 feet high (6 feet above MHW) with a top width of 5 feet, just south of the Wall Street bridge near the Norwalk Boat Club. The jetty was proposed to deflect river floodwaters, caused by fresh water runoff, away from the Norwalk Boat Club building and provide protection to boats moored in the vicinity. During the course of the hearing, local interests stated that past damages occurred as a result of river flooding rather than as a result of tidal flooding. The suggested work would provide no protection from overflowing.

22. The matter of improving Fivemile River Harbor which lies partially within the City of Norwalk was discussed briefly, although there is a separate, existing Federal navigation project for this harbor. Subsequent to the 1955 public hearing, the City of Norwalk recognized a need for a master plan of development of its land and water areas. The City requested a delay in consideration of Federal navigation improvements pending completion of its master plan. A variety of plans were proposed by consulting engineering firms and municipal and citizens committees. In 1963 the Mayor of Norwalk requested that the Corps of Engineers limit its consideration to provision of a 30-acre anchorage located south of Veterans Memorial Park and of a depth suitable for recreational craft.

EXISTING AND PROSPECTIVE COMMERCE

23. Commerce in Norwalk Harbor consists chiefly of the transportation of coal and petroleum products destined for the power plant dock at Manresa Island, the various other coal and oil docks along the South Norwalk and Norwalk waterfronts. In 1966, commerce in the harbor totalled 1,346,050 tons of which 957,173 tons was bituminous coal and lignite. Diversified petroleum products totalled 252,083 tons, while crushed stone, and sand and gravel accounted for 135,087. The remaining traffic was mainly the receipt of fish and shellfish.

24. In the latest 10-year period, commerce in the harbor has increased from 477,329 tons in 1957 to 1,346,050 tons in 1966, an increase of over 180 percent. The average annual commerce during the 5-year period, 1962 through 1966, was 1,117,487 tons.

VESSEL TRAFFIC

25. For 1966, there was a total of 3,062 vessel trips reported in Norwalk Harbor of which 1,537 were inbound and 1,525 outbound by vessels having drafts of 15 feet. Over 70 percent of the commerce carried in these vessels was the receipt of coal and lignite, the major portion of which was destined for the Connecticut Light and Power Company. Petroleum and petroleum products amounted to about 18 percent of the total receipts, and crushed stone, sand and gravel about 10 percent.

26. At the present time, there are about 2,500 pleasure craft ranging from 20 to 80 feet in length and about 4,500 under 20 feet in length based in the Norwalk Harbor area. These boats make frequent passages between Norwalk and other coastal harbors. In addition to these locally based craft, there is a great influx of visiting craft during the boating season from New York, New Jersey, and other coastal states.

DIFFICULTIES ATTENDING NAVIGATION

27. The principal difficulties to navigation in Norwalk Harbor are those associated with use of the harbor by recreational craft. There is insufficient space of adequate depth available to accommodate the number of boats seeking mooring areas. It was stated at the hearing that tankers have difficulty navigating the sharp bend at Oystershell Point and that vessels and barges have been observed aground at this bend. However, no verification of specific examples was presented at the hearing, and there is no record of monetary damage occurring from such groundings.

WATER POWER AND OTHER SPECIAL PURPOSES

28. The waterway is tidal. There are no water power or flood control matters pertinent to this navigation study. The inner harbor and upriver tidal areas are closed to shellfishing because of severe pollution. Although some increased flushing action could be expected from dredging work in the vicinity of the East Norwalk arm of the inner harbor, provision of the desired dredging improvements would not significantly change existing pollution conditions within the inner harbor.

29. The U. S. Fish and Wildlife Service has reported that irreparable damage would be incurred by removal of the mudflats within the inner harbor, as these flats provide major protection and shelter to wintering ducks and to many species of finfish and shellfish. They estimated that only 100 acres of waterfowl feeding grounds in Fairfield County can be considered reasonably safe from destruction. This estimate includes the mudflats adjacent to Veterans Memorial Park. They consider that no additional habitat losses can be absorbed in this area, and they oppose any future disposal of dredged materials on existing wetlands.

PLAN FORMULATION

30. Careful consideration was given to improvements desired by local interests as well as to alternative plans of improvement. The following factors precluded the improvement of nearly all the sites within the Norwalk Harbor area: shorefront presently developed to maximum use, lack of access, tidelands privately-owned, marshlands valued highly for fish and wildlife, available areas isolated from necessary facilities.

31. The existing 10-foot deep Federal anchorage off Fitch Point, initially constructed for early schooner traffic, was considered as a possible site for anchoring recreational craft. This site, however, is exposed to southerly storms and wave wash from the adjacent ship channel. It is also isolated from shore access and facilities and is consequently not a suitable alternative.

32. Three consulting engineering firms and a number of municipal and citizen's committees prepared a master plan for harbor development for the city of Norwalk. The Corps awaited the specific desires and needs resulting from these studies at the request of local interests. For years local interests were unable to resolve their priorities, particularly as to commercial versus recreational needs. However, in response to the Mayor's request in 1963 (paragraph 22), consideration of a site for mooring facilities centered around Veterans Memorial Park, more specifically a 30-acre anchorage dredged to a depth of 6 feet in that area. Costs for providing a 30-acre anchorage were found to be slightly less costly than marina facilities on a per boat basis. Marina facilities at Veterans Memorial Park require that parking areas be provided and playgrounds relocated. Thus, marina facilities

as an economical alternative, were eliminated. However, the 30-acre anchorage was found not to be justified. Moorings located in a free overlapping circle spacing throughout the 30 acres would provide for approximately 10 boats per acre, or a total of 300 boats at an annual charge of \$93,600. The resulting recreational benefits are estimated at \$84,330. The benefit-cost ratio is 0.9. In addition, the Fish and Wildlife Service, in a report dated 2 June 1965, objected strongly to the improvement of the 30-acre anchorage on the grounds that dredging all of the tidal flats would cause an irreplaceable loss to waterfowl, finfish and shellfish resources.

33. These findings were discussed with local officials at a meeting in Norwalk on 4 September 1968 in an effort to determine whether some alternative location might be suitable for the required anchorage improvement. As stated in paragraph 30, no other areas are available for improvement. City officials asked that an anchorage smaller than 30 acres be considered for the Veterans Memorial Park area, adding that fore-and-aft moorings would result in the addition of a larger number of boats. City officials agreed that a 14-acre anchorage off the southeast corner of Veterans Memorial Park would meet reasonably prospective needs and indicated a willingness to establish and control the fore-and-aft mooring method. This type of mooring is presently used in the east branch Federal anchorage and in nearby Fivemile River. The location has good channel access from the existing East Norwalk channel. The site is also somewhat sheltered from shipwash by marshland to the west, and from storm waves by Gregory Point to the south.

34. Most of the recreational craft based in Norwalk Harbor draw less than six feet of water and no significant need has been demonstrated for anchorage depths in excess of this depth. It is considered that the needs of boats drawing more than 6 feet of water can be met by increased use of the Fitch Point Light anchorage.

35. The distribution of new recreational vessels expected to use the anchorage is based on existing distributions in 10 representative New England harbors. The vessel type and percentage breakdown is given in TABLE II. Based on this distribution, the average length of craft anticipated in the anchorage is about 24 feet. With fore-and-aft moorings, mean depth is 6 feet, and tidal range of 7.1 feet, the corresponding anchorage capacity is 23 boats per acre for a total of about 320 boats for 14 acres. However, to allow for some play in the mooring lines during severe southerly storms, the design capacity is considered to be 300 boats.

36. In view of the objections by the Fish and Wildlife Service to dredging the tidal flats, a meeting of the Norwalk Harbor Committee was held on 13 March 1969 to discuss the relative needs of the harbor. As a result, information was furnished by local interests delineating 5 nearby areas including the offshore islands, which they believe have significantly higher values for waterfowl. An estimated total of 45,000 to 50,000 birds use these areas during migration. Only 100-150 birds use the flats adjacent to the park and these birds occupy the 16 acres west of the proposed anchorage which would be left undisturbed by the dredging project. In addition, there would be no loss of shellfish habitat as the mudflat proposed for dredging does not contain shellfish under present conditions.

37. The U. S. Fish and Wildlife Service responded to the 14-acre anchorage as it did to the 30-acre anchorage. It contends that wetlands habitat, especially in Fairfield County, is at a premium today and that fourteen acres of wetlands today are as valuable from a wildlife viewpoint as 30 acres was in 1965. The Fish and Wildlife Service was unable to estimate the detrimental effects of the improvement on the natural resources. While the Service expects some loss, it presented no data to show that the loss would be sufficient to offset the substantial benefits resulting from the improvements discussed below.

38. A plan of improvement has been selected which represents the maximum development of the inner harbor in keeping with local desires, and minimizes disturbance of natural wetlands areas in keeping with the request of the Fish and Wildlife Service.

PLAN OF IMPROVEMENT

39. The selected plan is a 14-acre anchorage, 6 feet deep, located off the southeast corner of Veterans Memorial Park. The anchorage is bordered on the east by the existing 6-foot Federal anchorage and East Norwalk channel. The anchorage is bordered on the west by a line which runs north-northwest from the intersection of the existing 10-foot anchorage with East Norwalk channel near Fitch Point Light at an azimuth angle of 341° to within 40 feet of Veterans Memorial Park, as shown on Plate 1.

SHORELINE CHANGES

40. The plan of improvement for dredging the anchorage south of Veterans Memorial Park will cause no significant change in the shoreline of Norwalk Harbor.

AIDS TO NAVIGATION

41. The United States Coast Guard has been consulted and has indicated that no additional aids to navigation would be required as a result of the improvement under consideration.

ESTIMATES OF FIRST COSTS

42. An estimate of the first costs of the improvement considered in this report has been made using prices prevailing in August 1969. Probings made during the survey indicate that the material to be dredged consists of gray organic silt. Utilizing in-place measurements, the quantity estimate is based on dredging to the proposed project depth of 6 feet, side slopes of one vertical to three horizontal, and an allowance of one foot for overdepth. The estimate is based on removing the material by bucket dredge and transporting to an approved spoil disposal area in Long Island Sound.

43. The estimated first costs of the improvement are shown below:

Project Cost Estimate

<u>Cost Account Number</u>	<u>Item</u>	<u>Cost Estimate</u>
09	Mooring basin, 14 acres, 6 feet deep dredging 160,000 c.y. of organic silt @ \$2.50/c.y.	\$400,000
	Contingencies	<u>70,000</u>
	Total Construction Cost	\$470,000
30	Engineering & Design	30,000*
31	Supervision & Administration	<u>40,000</u>
	Total Project Cost	\$540,000*
*Excludes Pre-authorization Study Costs of		\$ 11,700

ESTIMATES OF ANNUAL CHARGES

44. The estimated annual charges have been computed on the basis of a 50-year project life and 5-1/8 percent interest rate for both the Federal and non-Federal investment. As shown in the following section, the benefits to be derived are completely recreational in nature and as such are apportioned equally between the general public and local interests. Federal and non-Federal share of first cost of construction are in the same ratio as the evaluated general and local benefits.

45. The total annual charges include \$15,000 for Federal maintenance of the proposed improvement based on a shoaling rate of 5,000 cubic yards annually and on using \$3.00 c. y. as the unit price for maintenance work. This estimate is in addition to the annual maintenance charges for the existing project.

ANNUAL CHARGES

Federal

Interest & Amortization (\$270,000 x 0.05584)	\$ 15,200
Additional Annual Maintenance	<u>15,000</u>
Total Federal Charges	\$ 30,200

Non-Federal

Interest & Amortization (\$270,000 x 0.05584)	\$ 15,200
Total Non-Federal Charges	<u>\$ 15,200</u>
Total Annual Project Charges	\$ 45,400

ESTIMATES OF BENEFITS

46. Construction of the mooring basin south of Veterans Memorial Park would result in benefits to recreational boating. No commercial benefits are expected to accrue from the improvement.

47. At the present time, there is an extreme shortage of mooring and berth facilities as evidenced by the number of applications from boatowners who are waiting for space. These boatowners are now obliged to use overcrowded areas or base their boats at some distant point or in open waters subject to storm damage. In addition, there are many boat enthusiasts who would like to purchase new boats if assured of the availability of adequate inner harbor facilities. The considered improvement would assist in alleviating these problems. It is estimated that the 14-acre anchorage would provide additional moorings for about 300 recreational craft.

48. The method of evaluation of benefits is based on the assumption that reasonable and representative percentages reflecting the net return on the depreciated investment in a for-hire fleet of small boats are also reasonable gages of recreational navigation benefits to boat users. Studies indicate that the net return varies for different parts of the country. The recreational benefits in this report are evaluated on the basis of the net return as applied to the depreciated investment in boats and equipment, equivalent to that earned by similar boats operated for-hire for similar nearby harbors. The depreciated value is taken as one-half of the cost of the boat and equipment when new, based on a straight line depreciation. For conditions prevailing in Norwalk Harbor, adjacent to the desirable sailing afforded by Long Island Sound, it is considered that reasonable return will vary from 14 percent for outboards to 8 percent for cruisers and auxiliary sailboats.

49. There are no boats mooring in the proposed anchorage area at the present time; therefore, no benefits to an existing fleet can be realized.

50. The considered improvement is expected to attract 300 new boats to the anchorage area. All existing facilities in the area are filled and have long waiting lists of people wanting to purchase new boats when moorings become available. Although some boats may transfer from neighboring areas, the vacated spaces at these areas will be filled with new boats. Consequently, the net result of providing a new anchorage area will be to attract 300 new boats to Norwalk Harbor.

NORWALK HARBOR

TABLE II - BENEFITS TO RECREATIONAL BOATING - New Boats

Anchorage capacity: 300 boats with fore-and-aft moorings on 14 acres.

HARBOR: NORWALK

HARBOR: NORWALK										160 Day Season			
TYPE OF CRAFT	LENGTH (feet)	No. of Boats		DEPRECIATED VALUE		PERCENT RETURN				VALUE \$	ON CRUISE		
		%	No.	AVERAGE \$	TOTAL \$	Ideal	% of Ideal Gain		Avg. Days		% of Season	Value \$	
							Pres.	Fut.					
RECREATIONAL FLEET													
Outboards	15-20	52	156	1,400	218,400	14	0	90	12.6	27,520	0	0	0
Inboards	15-20	4	12	2,600	31,200	12	0	90	10.8	3,370	0	0	0
	21-30	3	9	4,300	38,700	11	0	90	9.9	3,830	0	0	0
	31&Up	1	3	16,000	48,000	10	0	95	9.5	4,560	0	0	0
Sterndrive	15-20	5	15	2,500	37,500	12	0	90	10.8	4,050	0	0	0
	21-25	4	12	4,500	54,000	11	0	90	9.9	5,350	0	0	0
	26&Up	2	6	9,800	58,800	10	0	95	9.5	5,590	0	0	0
Cruisers	21-30	8	24	6,500	156,000	9	0	90	8.1	12,640	12	7.5	950
	31-40	7	21	16,000	336,000	8	0	95	7.6	25,540	16	10.0	2550
Aux. Sail	15-20	2	6	1,800	10,800	9	0	90	8.1	870	0	0	0
	21-30	4	12	4,900	58,800	8	0	90	7.2	4,230	6	3.76	160
Sailboats	8-15	1	3	500	1,500	12	0	90	10.8	160	0	0	0
	16-20	3	9	1,200	10,800	12	0	90	10.8	1,170	0	0	0
	21-25	4	12	2,100	25,200	11	0	90	9.9	2,490	6	3.75	90
TOTALS		100	300		1,085,700					101,370			3,750
										- 3,750			
										\$ 97,620			

51. The benefits accruing to these new boats are tabulated in Table II and amount to \$97,620.

52. It is anticipated that one-third of the anchorage will be utilized within one to three years after improvement, thus constituting immediate benefits in the amount of \$32,540. The remaining two-thirds will fill within ten years. With a project life of 50 years, a growth period of 10 years, and an interest rate of 5-1/8 percent, the average annual equivalent factor is 0.790. Hence, the average annual equivalent benefits for the future growth fleet are $\$65,080 \times 0.790$ or \$51,400. The total benefits are \$83,900.

53. A summary of estimated annual benefits that would accrue from the considered improvement follows. The benefits, all recreational, are considered to accrue one-half to the general public and one-half to local interests.

<u>Summary of Benefits</u>			
<u>Recreational Boating</u>	<u>General</u>	<u>Local</u>	<u>Total</u>
New Boats (300)	\$ 41,950	\$41,950	\$83,900

COMPARISON OF BENEFITS TO COSTS

54. A comparison of the total estimated annual benefits and annual charges for the considered plan of improvement is as follows:

Total evaluated benefits	\$83,900
Total annual charges	\$45,400
Ratio of benefits to costs	1.9

PROPOSED LOCAL COOPERATION

55. The benefits to be derived from the provision of an anchorage are entirely recreational in nature, and would be apportioned as above. On this basis, local interests would be required to make a cash contribution equal to 50 percent of the construction cost, an amount currently estimated at \$270,000. In addition, it will be necessary for local interests to provide, maintain and regulate the use of fore-and-aft mooring facilities as needed for transient and permanent vessels.

Other items of local cooperation are listed under RECOMMENDATIONS.

APPORTIONMENT OF COSTS AMONG INTERESTS

56. The benefits that would accrue from the improvement of Norwalk Harbor by provision of a mooring basin off Veterans Memorial Park are entirely recreational in nature and are considered 50 percent general and 50 percent local in nature. On this basis, local interests will be required to share equally in the first costs of the improvement currently estimated to be \$540,000. The Federal investment to be borne solely by the Corps of Engineers; no other Federal agencies are involved.

COORDINATION WITH OTHER AGENCIES

57. All Federal, state and local governmental agencies concerned in further development of the waterway were notified of the public hearing held at Norwalk, Connecticut on 20 September 1955. Subsequently, discussions were held with city officials and local interests. The U. S. Coast Guard was informed of the plan of improvement under consideration and asked to comment on the cost for aids to navigation that might be required should the improvement be constructed. The Commander of the Third Coast Guard District advised that no additional cost for navigation aids would be necessary should the improvement be constructed.

58. In response to a request for comments on the considered improvement, the U. S. Fish & Wildlife Service reports that dredging the mooring basin south of Veterans Memorial Park would constitute an irreplaceable loss of coastal wetlands vital to nursery and nutrient development areas for finfish, shellfish and waterfowl. No monetary value was placed on this loss. The report further states that disposal of spoil other than at sea would compound this loss. A copy of the Fish & Wildlife Service report is attached as Appendix A.

DISCUSSION

59. Norwalk Harbor is located on the north shore of Long Island Sound about 13 miles southwest of Bridgeport, Connecticut. It forms the tidal portion of the mouth of the Norwalk River and serves as a home port for a large recreational boating fleet. The city of Norwalk, an important industrial center which also serves as the trading center for adjoining towns, practically surrounds the harbor. Shellfishing is an important factor in the economy of the area. Nearly all of the shoreline outside of the commercial center consists of year-round and summer residences.

60. The principal difficulties to navigation in Norwalk Harbor result from overcrowding of existing mooring and berthing facilities by recreational craft. The shorefront is developed to maximum use, by both public and private interests. All of the marsh tidelands are considered to be highly valuable for sustaining fish and wildlife resources. The existing 10-foot Federal anchorage located off Fitch Point is too exposed to southerly storms and wave wash from the adjacent ship channel to serve as a suitable anchorage for small craft. It is also isolated from any shore access. For many years the City of Norwalk has attempted to establish a master plan for harbor development. Finally in 1963 it was decided that a 30-acre anchorage located off the south side of Veterans Memorial Park could solve the problem of additional space. However, the U.S. Fish and Wildlife Service, with concurrence of State and local conservation agencies, objected strongly to removing the mud flats to provide anchorage space, on the grounds that dredging would cause an irreplaceable loss to fish and wildlife resources.

61. After discussing the results of this study with city officials, it was decided that a 14-acre anchorage at the same site, if a fore and aft mooring system were used, would meet the needs of boating interests. The benefit-cost ratio for this plan is 1.9 to 1.0. However, this plan also met the same objections from Federal and State fish and wildlife agencies. Construction of the anchorage would eliminate an important part of the estuarine habitat they claim. Also, disposal of the material in either offshore dumping grounds or on existing marsh areas would compound the damage to marine resources. However, city officials were presented with the results of the alternative improvement plan. The Connecticut State Water Resources Commission was also presented the plan. By letter dated 4 November 1960, the latter endorsed the proposed plan of improvement. The Common Council of the City of Norwalk at its meeting 10 March 1970, adopted a resolution authorizing the city, through its agencies, to proceed with application for planning the proposed boat basin off Veterans Memorial Park. However, the Council also moved to hire consultants to study the proposal in the light of its impact on ecology (see attached letter of 1 April 1970 in Appendix B). At a Special Meeting of the Common Council of the City of Norwalk on 7 July 1970, the Council voted to inform the Corps of the City's inability to commit funds in connection with the proposed anchorage because the ecological studies indicated adverse effects on marine life (See Appendix B.)

CONCLUSIONS

62. The Division Engineer finds that although there is a definite need for additional mooring space in Norwalk Harbor for recreational craft and that this mooring space can be justified, local interests are unable to meet the requirement for sharing in the cost of an anchorage at this time.

RECOMMENDATIONS

63. Therefore, the Division Engineer recommends that no modification of the existing Federal project at Norwalk Harbor, Connecticut, be undertaken at this time.

4 Incls

1. Map - Plate No. 1

2. App. A-U.S. F&W
Report

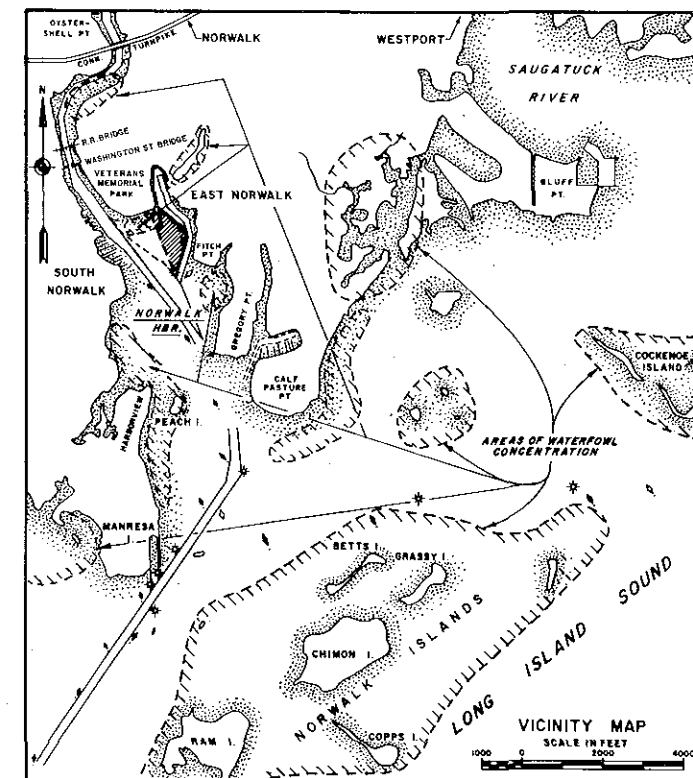
3. App. B - Correspondence

4. Info. - Senate Resolution 148

FRANK P. BANE

Colonel, Corps of Engineers

Division Engineer

[illegible]



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

U. S. POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109

August 8, 1969

Division Engineer
New England Division
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

This report supplements our June 2, 1965 conservation and development report on your study of navigation improvements for Norwalk Harbor, Fairfield County, Connecticut. Your study is being made under authority of the Resolution of the Senate Public Works Committee dated August 6, 1956. This report was prepared under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-666 incl.), in cooperation with the Connecticut Board of Fisheries and Game and the Connecticut Shell Fish Commission and has their concurrence as indicated by letters dated August 4, 1969 and July 31, 1969, respectively. It has also been coordinated with and represents the views of the Bureau of Commercial Fisheries.

We understand that the improvement you now are studying consists of a 14-acre mooring basin six feet deep at mean low water southeast of Veterans Memorial (Seaview) Park; the earlier plan upon which we reported called for a 30-acre mooring basin. The basin will be used primarily by recreational craft. Deposition of about 200,000 cubic yards of spoil on the Norwalk Dumping Ground in Long Island Sound six miles southwest of Norwalk Harbor is being considered.

The location of the proposed mooring basin is a tidal flat which is exposed at low tide levels. This flat is bounded on the west by the Seaview Park Reach of the Norwalk River navigation channel. The entrance channel and anchorage basin of East Norwalk Harbor lies adjacent to the east side of the proposed mooring area. Norwalk Harbor is surrounded by the built-up areas of South and East Norwalk.

Striped bass, bluefish and winter flounder are common in the estuary. Although there is no commercial fishery in the project area, these species are taken by commercial fishermen in offshore waters. These same species are major constituents of the coastal sport fishery.

The coastal wetlands, which include mud flats, produce nutrients and small food organisms which are used by young sport and commercial fish species. Likewise small forage fishes which themselves are utilized by commercial and sport species are found here. In brief, the coastal wetlands provide the basic nutrients which support an important sector of the valuable fishery resources through a complex food web. Coastal wetlands also contribute important nutrients to the shellfish resources.

Hard-shell clams (quahogs) and oysters occur in the estuary; however, they are not numerous enough to represent a significant resource. The estuary is closed to all forms of shellfishing because pollution is severe. Town shellfish grounds lie about one and one-half miles seaward from the project area and State shellfish grounds lie generally two miles seaward from the project area. These areas have been two of the few continuously productive shellfish grounds in Connecticut, and are suitable for maturing market oysters, following which they are depurated before entering the market.

The tidal flats, open waters, and marshes of the estuary provide fall and winter feeding and resting habitat for waterfowl. The estuary contains about 400 acres of tidal mud flats and emergent grass and about 2,000 acres of open water less than 12 feet deep. For the past five years an average of about 5,000 waterfowl have been observed in this estuary during the annual mid-winter waterfowl counts by this Bureau and the Connecticut Board of Fisheries and Game. This represents about 500,000 duck-days use of the Norwalk Harbor area. The black duck and scaup are the most numerous species. The mud flats in the estuary, including the area that would be dredged, offer some protection to waterfowl against winter storms and are important feeding areas for dabbling ducks such as the black duck and mallard, and for diving ducks, particularly scaup.

Because of their great contribution to the basic needs of the fish and wildlife resources as explained above, the preservation of the declining acreage of coastal wetlands is extremely important. The loss of coastal wetlands in Connecticut between 1954 and 1964 amounted to 2,179 acres, or 12.8 percent of the total wetlands existing in 1954. Losses of wetlands in Fairfield County amounted to 933 acres during the same 10-year period. This loss was 45 percent of the wetlands existing in the County in 1954. Remaining Fairfield County wetlands also are considered highly vulnerable to destruction. In 1964, 91 percent of the remaining wetlands in the County were considered vulnerable to destruction or to being adversely affected by a known agent within a five-year period. Wetlands considered safe from destruction amounted to only 100 acres in Fairfield County, or only nine percent of the 1,100 acres remaining in 1964. Since 1964 many additional acres of wetlands have been destroyed by filling or damaged by dredging. Recent wetland destruction has largely occurred on a piecemeal basis as a result of one small dredging project after another.

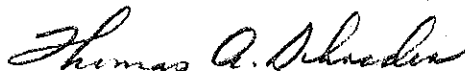
Norwalk Harbor is used as a base by eight 40 to 50-foot oyster and clam fishing vessels. These boats are moored at docks owned and maintained by several shellfish companies. The harbor is also used by transient shellfish vessels based on Long Island and these vessels usually use facilities maintained by the shellfish companies. There are a few 12-20 foot oyster tonging skiffs based in the harbor. There are no other commercial fishing vessels based in Norwalk Harbor. These shellfish boats will derive no benefits from the project since they already have docking and mooring facilities. The smaller skiffs do not need deep anchorage areas because of their shallow draft. No increase in the number of commercial fishing vessels is foreseen. The project is not expected to benefit the commercial fishery.

Although the planned anchorage area has been reduced in size from 30 to 14 acres, the loss of even smaller acreages of wetlands would be very serious. Destroying this acreage of the remaining wetlands will eliminate an important part of the estuarine habitat which is so essential to the survival and growth of adequate waterfowl, finfish, and shellfish resources for the future. Furthermore, the continued destruction of these areas affects a significant rise in the value of the remaining wetland units. Fourteen acres of wetlands today are at least as valuable as the 30 acres in question in 1965.

In view of the potential losses to waterfowl, finfish, and shellfish resources, we recommend that the project as planned not be constructed.

If a new plan for a relocated anchorage is considered, please notify us so that we may report to you its effects upon fish and wildlife resources.

Sincerely yours,

A handwritten signature in cursive script, reading "Thomas A. Schneider".

Asst. Regional Director



STATE OF CONNECTICUT

WATER RESOURCES COMMISSION

STATE OFFICE BUILDING

HARTFORD, CONNECTICUT 06115

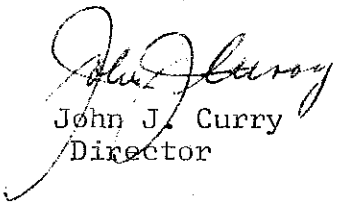
November 4, 1969

E. P. Stefanik, Lt. Colonel
Corps of Engineers
Deputy Division Engineer
New England Division
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

Reference is made to your letter of October 6, 1969 regarding proposed navigation improvements to Norwalk Harbor. The proposed improvements would provide a 14 acre mooring basin 6 feet deep at mean low water in the vicinity of Veterans Memorial Park, East Norwalk. The Water Resources Commission has had several meetings with planning officials in the City of Norwalk concerning facilities required in connection with recreational boating activities in the Norwalk area. The boating activities are intensive and there is great need for facilities such as this project would provide. This project is therefore considered highly desirable by the Water Resources Commission and the Commission is willing to provide assurances respecting conditions a. and e. provided that funds for the project are made available by action of a future Legislature. There are no currently available funds for this purpose. Section 25-76 as amended by Public Act 14 of the 1969 General Assembly permits the Water Resources Commission to participate in providing required assurances and in carrying out the provisions of same. We believe that existing State law regarding discharge of pollution to State waters will meet the requirement of condition h.

Very truly yours,



John J. Curry
Director

JJC/tvm

cc: Planning Commission, City of Norwalk
Mr. George J. Conkling

CITY OF NORWALK

OFFICE OF MAYOR
FRANK N. ZULLO



NORWALK, CONNECTICUT

M E M O

April 1, 1970

TO: Mayor Frank N. Zullo

RE: 14-Acre Boat Basin

Re: NEEDED-R

The Common Council of the City of Norwalk, at its meeting March 10, 1970, adopted the attached resolution authorizing the city, through its agencies, to proceed with application for the PLANNING the proposed boat basin off Veterans Memorial Park.

In addition to adoption of the resolution, the Council moved "to hire consultants in the area of ecology and in the area of determining whether or not Veterans Memorial Park is, in any way, goin to be in danger;" with the understanding that the Mayor "be allowed to determine the amount of fees by speaking to the people involved, - perhaps going to a university to find someone; if he determines it is reasonable, he will go ahead to the Board of Estimate."

CHARLES S. MARSHALL, CITY CLERK

jp
Att.

CC: PLANNING COMMISSION

RECREATION & PARKS COMMISSION

CONSERVATION COMMISSION

Parks, Recreation & Harbor Committee (Mr. DiStasi)

Corporation Counsel - Comptroller

Gardner Blodgett, Corps of Engineers ✓

CITY OF NORWALK

OFFICE OF THE MAYOR
AND THE CITY CLERK



NORWALK, CONNECTICUT

July 9, 1970

Lt. Col. E. P. Stefanik, Deputy Division Engineer
New England Division, Corps of Engineers
Department of the Army
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Sir:

Re: Proposed 14-Acre Boat Basin off Veterans
Memorial Park - Norwalk, Connecticut

Reference is made to your letter dated 6/15/70 addressed to
Mayor Frank N. Zullo re the above subject.

Please be advised that the Common Council of the City of Norwalk,
at its Special Meeting July 7, 1970, voted to inform the Army
Corps of Engineers of the City's inability to commit funds in
the amount of \$540,000 in connection with the proposed Federal
Mooring Basin improvement off Veterans Memorial Park.

Further, the Council resolution of March 10, 1970 contained a
stipulation to proceed with the proposed boat basin application
"...provided the use of this area for mooring will have a minimal
effect upon the ecology of Norwalk's waters, wetlands and stabil-
ity of abutting uplands."

A study conducted June 23, 24, 25 and 27, 1970 by Dr. William
Lazaruk, Biology Department, Fairfield University, of the Biologi-
cal Conditions of the Waters and Mudflats East of Seaview Park
(Veterans Memorial Park) indicates that the area is teeming with
marine life which would be adversely affected by the proposed
project. This, and the fact that the city cannot legally commit
itself to the expenditure of funds for the 1972 fiscal year,
precludes the city's participation in the construction of the
proposed 14-acre mooring basin improvement off Veterans Memorial
Park.

Very truly yours,

CHARLES S. MARSHALL, CITY CLERK

NORWALK HARBOR
NORWALK, CONNECTICUT

Information Called for by
Senate Resolution 148, 85th Congress
Adopted 28 January 1958

1. Navigation Problem. Norwalk Harbor is located on the north side of Long Island Sound at the entrance to the Norwalk River, approximately 13 miles southwest of Bridgeport, Connecticut. There is an existing Federal navigation project at Norwalk Harbor, which provides for a channel 12 feet deep, 200 feet wide from the outer harbor to Gregory Point, thence 12 feet deep, 150 feet wide to South Norwalk and 250 feet wide along the wharves to Washington Street Bridge; thence 10 feet deep, generally 100 feet wide to a basin of the same depth at the head of navigation at Norwalk. Also, an anchorage 10 feet deep about 17 acres in area opposite Fitch Point, a channel 6 feet deep, 125 feet to 150 feet wide, along the east side of the harbor to the head of the harbor at East Norwalk and an anchorage basin 6 feet deep, adjacent to the upper portion of the East Norwalk channel. The project was completed in 1950.
2. The principal navigation difficulty is a lack of mooring space for the large recreational fleet using the harbor.
3. Improvement Considered. Consideration was given to the requests of local interests for modification of the existing project by providing additional anchorage within the harbor for the expanding recreational fleet.
4. Discussion. Officials of the City of Norwalk in past years have attempted to develop a master plan for harbor improvement to accommodate the large recreational fleet located in the harbor. The only large area available for improvement where adequate public shore access could be obtained was located adjacent to Veterans Memorial Park. It was originally proposed to dredge an area of 30 acres 6 to 8 feet deep at this site. However, strong objections were received from fish and wildlife agencies at all levels of government. At the insistence of City officials a modified project of 14 acres, 6 feet deep, was considered and found to be economically justified. However, local conservationists and the U. S. Fish and Wildlife Service still objected

to any dredging at this site on the grounds that irreplaceable losses to marine resources would occur through removal of the wetlands, compounded by disposal of dredged material in either an offshore disposal area or on nearby marshlands. City officials had consultants conduct an independent study to determine the effect of the anchorage on the marine environment. As a result, the Common Council of the City of Norwalk voted in July 1970 that it could not participate in the cost sharing for an anchorage at this time. No other alternative site lent itself to study. Therefore, the Division Engineer has recommended that no modification of the existing Federal project at Norwalk Harbor be made at this time.